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CATALOGUE OF THE SHELL-BEARING MOLLUSCA
OF PORTAGE COUNTY, OHIO.BY GEO. W. DEAN.¹

The following pages are the result of a somewhat industrious experience of about ten years, with the assistance of friends and experts, both within the state and outside of it. No pretence is made of completeness or perfect accuracy, for such a thing belongs to the impossibilities in the present unsettled and confused state of the nomenclature of this interesting department of the science of Natural History. This confusion is most striking among the fresh water univalves and the Corbiculidæ but it exists in nearly all the genera.

I have no doubt that species new to the county will yet be discovered. I predict that *Unio parvus* Barnes, and possibly *Margaritana hildrethiana* Lea, will be found in the south branch of the Mahoning in the township of Deerfield.

I think also that the Rissoids will be increased by the discovery of new forms.

My thanks are due to S. M. Luther and Geo. I. Streator for valuable aid.

Class GASTROPODA.

Sub-Class PULMONATA.

Order STYLOMMATOPHORA.

Family ZONITIDÆ.

Genus *Zonites*, Gray.Section *Hyalina* Ferrussac.*Zonites arboreus* Say.

Common everywhere in woods and under logs. It is naturally an upland species, but it is often found in wet places.

Zonites nitidus Mull.

Not so common as the above but is often found in large numbers in wet places, subject to occasional overflow. This is the largest of our Hyalinas.

¹Kent, O.

Zonites viridulus Mencke.

Wet and swampy grounds away from running streams. Not abundant.

Zonites indentatus Say.

Habitat moist woods. Not gregarious or abundant. A distinct and beautiful species.

Zonites minusculus Binney.

Rather rare. Damp old pastures around stumps and logs, sometimes in woods. I have found this species in four different localities but do not know how generally it is distributed.

Zonites milium Morse.

Habitat thick woods, in depressions among the moist leaves. Common, but not usually found in large numbers. The smallest of all our zonites.

Zonites ferreus Morse.

A northern species very rare in this latitude. A few examples have been collected by S. M. Luther and Geo. I. Streator in the vicinity of Garrettsville. I have compared it with specimens from Maine and have no doubt of its correctness.

Zonites exiguus Stimpson.

I have collected this species in considerable numbers in an open marsh near my place, under sticks and old fence rails. Not very common.

All of the above are found at Kent except *ferreus*.

Section *Conulus*, Fitz.*Zonites fulvus* Drap.

Moist places, and very common.

Section *Gastrodonta*, Albers.*Zonites suppressus* Say.

This species is not uncommon but has not been collected in large numbers. It is found in different situations but generally under leaves in moist woods.

Zonites multidentatus Binn.

Habitat same as the above. It is a very beautiful species and has been collected in large numbers by Luther and Streator near Garrettsville, rather common.

Section *Mesomphix*, Rafinsque.

Zonites fuliginosus Griffith.

Rather rare in this county so far as I have observed. On hill-sides in deep woods.

Zonites ligurus Say.

More common than any other species of mesomphix.

Zonites intertextus Binn.

Quite rare and has no existence in this part of the county. From Luther and Streator.

Zonites inornatus Say.

I have collected a few specimens of this species in Shalersville and Hiram townships, but it may be considered rare throughout the county.

Family SELENTIDÆ.

Genus *Macrocyclis* Beck.

M. concava Say.

Common. This genus has its greatest development in the Pacific States, but it is the opinion of Mr. Hemphill, whose field of observation has been very extensive, that all of the recognized species of that region are simply varieties of *concava*. Specimens of *concava* from Kentucky are found to very closely resemble the large forms of *vancouverensis* from Oregon and Washington.

Family HELICIDÆ.

Genus *Patula*.

P. solitaria Say.

Streator reports two localities where this species is found. I know of one. It is in woods on high ground in Hiram township. The shells are small but high colored for the species which is usually rather dull. Gregarious.

P. alternata Say.

A very common and abundant species.

P. perspectiva Say.

Also very common in rotten wood.

P. striatella Anthony.

Rather common in wet places liable to overflow. It resembles the preceding in appearance but is quite different in its choice of location.

Section *Microphysa* Albers.*M. pygmea* Drap.

This minute species is not uncommon in woods among damp leaves, but it requires close search to find it.

Section *Helicodiscus* Morse.*H. lineatas* Say.

Under old logs, in limited quantity.

Section *Strobila* Morse.*S. labyrinthica* Say.

Rather rare in most localities. There is a small variety in my woods near Kent that is depressed and keeled.

Section *Stenotrema* Rafinesque.*S. hirsuta* Say.

Very common in wet places.

S. monodon Rack. Var *fraterna*.

Common in woods.

Section *Triodopsis* Raf.*T. palliata* Say.

Rather common on heavy soils. Absent on the light soils about Kent. Its habitat is about decaying timber.

T. inflecta Say.

Very rare in this county. More common in Summit. I found two miles west of Akron a shell in every respect except size like the new species *T. craigini* Call, Kansas, and this leads to the suspicion that *craigini* may prove to be only an umbilicated variety of this species.

T. tridentata Say.

Common. Shells of this species and the following one are small throughout the county, only about 12 mm. greatest diameter while at Cincinnati and further south they are 18 mm. or more.

T. fallax Say.

Much like the above but not as common.

Section *Vallonia* Risso.*V. pulchella* Mull.

Common. A circumpolar species common to three continents. The costate variety has not been observed here.

Section *Mesodon* Rafinesque.*M. albolabris* Say.

Our most common species. The heavy variety prevails in the northern part of the county, sometimes with the parietal tooth. Only the small variety is found near Kent and this is uniformly without the tooth.

M. thyroides Say.

A common and very distinct species. Like the above the large variety is found only upon heavy soils, and the small variety at Kent.

M. profundus Say.

Not common and it does not occur at Kent. Fine specimens have been collected at Garrettsville and elsewhere.

M. multilineatus Say.

The large variety is rare and only found in the northern part of the county. The small variety is not uncommon at Kent. The variety *rufus* is occasionally found, but the plain unbanded variety so common in some places does not occur in the county.

M. sayi Binn.

A small variety of this species has been found along Tinker's Creek in Cuyahoga county, but only one specimen is known from this county. Collected by S. M. Luther.

M. dentifera W. G. Binney.

A single specimen reported from Hiram township by Mr. Luther. The determination may well be considered doubtful from the fact that there are so many forms of *albolabris* that this single specimen may be a sport or abnormal. It is the opinion of some well informed conchologists that *major*, *exoleta*, *andrewsi*, and this species are only some of its varietal forms. It is certain that the dividing lines are hard to find.

Family ACHATINIDÆ.

Genus *Ferrussacia* Risso.

F. subcylindrica Linn.

Not yet discovered in any numbers. A few isolated specimens only have been collected.

Family PUPIDÆ.

Genus *Pupa* Lam.

P. pentodon Say.

Most or all of the specimens I have seen are what is known as *P. curvidens* Gld. I have no doubt that both forms occur in the county. It is extremely variable and I do not with my present knowledge regard the latter as a distinct species. It is a common species and is found in localities very different in character.

P. contracta Say.

Common in wet places under decaying wood.

P. corticaria Say.

Inhabits bark of decaying logs as its name indicates. Quite rare here; I have only found six specimens in ten years.

Pupa edentula Drap.= *Vertigo simplex* Gould.

Not common. Attached to decaying wood and under leaves. Best time for collecting this species is late in the fall.

P. alticola Ing. is probably identical with this.

Genus *Vertigo* Muller.

V. bollesiana Morse.

In swamps. Rare.

V. ovata Say.

Rather common in wet places on logs and sometimes stones.

V. milium Gould.

Abundant in some places on decaying wood and among leaves.

Family SUCCINIIDÆ.

Genus *Succinea* Drap.

S. ovalis Gould.

Very common.

S. avara Say.

Also a very common species. It is usually covered with a black wooly substance easily removed with a brush.

S. aurea Lea.

Not recognized here. Collected at Garrettsville by Mr. Luther.

S. obliqua Say.

Found sparingly in low grounds.

S. totteniana Lea.

Not common. This is the only succinea that I have collected on uplands. It is usually considered a variety of *obliqua*, but its decided green color and different habitat would indicate that it is at least as good a species as some others.

Family AURICULIDÆ.

Genus *Carychium* Müll.

C. exiguum Say.

An abundant species attached to bits of decaying wood in localities like the preceding.

Family POMATIOPSIDÆ.

Genus *Pomatiopsis*.

P. lapidaria Say.

Common along the borders of streams subject to overflow, along with *Z. nitida* and *Succinea avara*. This family is not usually placed among the Pulmonata. I give it this place because it is undoubtedly a land species.

Family LIMNÆIDÆ.

Genus *Limnæa* Lamark.

L. columella Say.

Not uncommon in stagnant water.

L. casta Lea.

A much smaller shell. Habitat the same and thought to be a variety of *columella*.

L. decidiosa Say.

Very common and abundant. Our smallest Limnea.

L. humilis Say.

Much like the preceding only a little larger, common.

L. caperata Say.

A more robust species than the preceding but almost equally common.

L. kirtlandiana Lea.

There is much confusion about this species. The type was evidently only about half grown. The mature shell is quite common and it may prove to be only a slender form of the following.

L. palustris Müll.

I do not know that this species has been collected here but I think it has and I have no doubt of its existence in the county.

L. reflexa Say.

I have not seen it here but Mr. Streator reports it rather common at Garrettsville.

Genus *Bulinus* Adanson.

Bulinus hypnorum Linn.

Not uncommon with habitat like the *Limnæas* in stagnant waters.

Genus *Physa* Drap.

Physa heterostropha Say.

If Mr. Say had placed everything under this head that he could not place elsewhere the result would be about what we find it; an extremely variable and abundant species.

Physa sayi Tappan.

Physa zordii Baird.

Physa ancillaria Say.

All found here and all may prove only varieties of *heterostropha*. I have collected the latter in Stewart's Lake together with *ancillaria* and more than half were doubtful as to which species they belonged. I regard *ancillaria* as only a variety.

Physa gyrina Say.

Equally variable with *heterostropha* and almost as common.

Physa ampullacea Gould.

Rare. This seems distinct but is said to be only a variety of *gyrina*.

Physa niagarensis Lea.

Reported by Streator from Camp Creek north of Garrettsville but I have not seen the shells. Shells collected at Akron for this species are undoubtedly *heterostropha*. The true *niagarensis* is very heavy and very white, and not half the size of *heterostropha*. Very uniform in size and appearance.

Genus *Planorbis* Guettard.

P. trivolvis Say.

Common but does not develop its full size here.

P. bicarinatus Say.

Common. Also small.

P. campanulatus Say.

Not uncommon.

P. corpulentus Say.

Doubtfully determined.

Section *Gyraulus* Agass.

P. albus Mull.

P. deflectus Say.

P. parvus Say.

P. exacutus Say.

All common.

Section *Segmentina* Fleming.

P. armigerus Say.

An abundant and very distinct species.

The following fresh water univalves are not classed with Pulmonata.

Family VALVATIDÆ.

Genus *Valvata* Mull.

V. tricarinata Say.

A very common species in streams.

Family STREPOMATIDÆ.

Genus *Goniobasis* Lea.

G. depygis Say.

Very common and abundant in all the larger streams.

Family RISSOIDÆ.

Genus *Bithynella* Moquin Tandon.

B. nickliniana Lea.

Known from Tinker's Creek only.

Genus *Amnicola* Gld. and Hald.

A. pallida Hald.

Tinker's Creek.

The two species last named were collected by Mr. Pettengell of Hudson and I can give no particulars about them.

A. porata Say.

A. parva Lea.

These two species are common at Kent.

A. cincinnatiensis Anth.

Lake Brady, Kent. The determination of this species is doubtful.

Family PALUDINIDÆ.

Genus *Melantho* Bowdich.

M. integra Say.

M. decisa Say.

M. decisa var. *rufa* Hald.

All these and probably others are found in our streams but of there being more than one species I have grave doubts. Chas. T. Simpson the able Assistant Curator at the National Museum entertains the opinion that there is but one species of *Melantho* in the whole country.

Family ANCYLINÆ.

Genus *Ancylus* Geoffroy.

A. rivularis Say.

Adheres to stones and is common in many of the streams. Streator.

A. parallelus Hald.

Not uncommon in sluggish waters. Plentiful in the Cuyahoga river on stems of *Pontederia cordata*. Streator.

CLASS LAMELLIBRANCHIATA.

Family UNIONIDÆ.

Genus *Anodonta* Cuvier.*A. edentula* Say.

A common and well marked species.

A. lacustris Lea.

Not common. Lake Brady.

A. ferrussaciana Lea.

Reported by Luther and Streator from Silver Creek. I have no means of knowing whether the determination is correct.

A. salmonea Lea.

Cuyahoga river near the Geauga line. This shell is identical with specimens from Ashtabula County that have been submitted to Geo. W. Tryon and Samuel H. Wright and identified as this species. The whole interior of adult specimens are colored a deep salmon, apparently caused by a constitutional disease of the animal. It is, in some places very abundant in sluggish streams.

A. subcylindracea Lea.

An abundant species in all of the larger streams.

A. pavonia Lea.

The typical form is rather common in the Cuyahoga river. A fine radiated variety is found in the Little Mahoning.

A. grandis Say.

I have fine large specimens of this species from a small stream in Windham township.

A. decora Lea.

This is a very beautiful shell but evidently only a smaller form of *grandis*.

A. fragilis Lam.

I am unable to see any value in this species. It is probably another form of *grandis*.

A. pipiniana Lea.

A set of this species is now in good condition, in the Lea collection at the National Museum from Lake Pepin in this township. Superficial examinations have not resulted in its re-discovery.

A. plana Lea.

Immense specimens of this species over eight inches long inhabit a small pond in Stratsboro township.

A. imbecilis Say.

Very rare here. One specimen from Lake Brady and one from a small pond in Franklin township. They have not the beautiful bluish green tint of Ohio river specimens. Recently Mr. Streator reports this species in considerable numbers from the Cuyahoga river in the north part of Hiram township.

Genus *Margaritana* Schum.*M. rugosa* Lea.

This robust and plentiful species in the larger streams is comparatively rare here, but I have seen it in the Cuyahoga and it is probably found in Silver Creek and other tributaries of the Mahoning.

M. complanata Lea.

In Silver Creek, but not abundant.

M. marginata Say.

In Silver Creek and doubtless other branches of the Mahoning, but not very common.

Genus *Unio* Retz.*U. coccineus* Lea.

Silver Creek, Windham township.

Unio gibbosus Barnes.

Silver Creek, Windham township. Common.

U. luteolus Lam.

Common and abundant in all the larger streams.

U. nasutus Say.

Common in many of the lakes and small streams and abundant in the Cuyahoga.

U. pressus Lea.

A very common species.

U. undulatus Barnes.

Silver Creek, Windham and doubtless other tributaries of the Mahoning.

U. occidentis Lea. Branches of the Mahoning but not abundant. This form of *occidentis* is identical with *U. subovatus* Lea.

Family CORBICULIDÆ.

Genus *Sphærium* Scopoli.

S. sulcatum Lam.

Common at Kent.

S. solidulum Prime. Kent.

S. striatinum Lam. Kent.

S. stromboideum Say.

Not common. Garrettsville.

S. occidentale Prime.

Not common. Kent.

S. truncatum Kingsly.

Kent. There is some doubt about the determination of this species.

S. fabalis Prime.

Fine specimens from Geo. I. Streator at Garrettsville.

S. securis Prime. Rare at Kent.

S. rosaceum Prime.

This species undoubtedly occurs here, but like the preceding is rare.

S. partumeium Say.

Genus *Pisidium* Pfr.

P. abditum Hald.

Found sparingly in swamps.

P. compressum Prime.

Abundant here in the Breakneck Creek. Fine large specimens.